

ABSTRACT

An improved method and apparatus for pretreatment of solid lump feed material for gas and pellet/lump-based direct reduction processes, by initially storing the lump feed in stockpiles for stress release, followed by pre-drying the feed material prior to charging into the reduction furnace and finally increasing the average temperature of the reduction furnace, in order to reduce the amount of reduction at low temperatures, thereby minimizing the formation of fines within the furnace.